The Monetary - Fiscal Mix Through Mid-1976

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DURING recessions Government deficits are regarded by some as desirable, and maybe even necessary, to foster economic recovery. The standard argument is, the more severe the recession, the larger the dose of fiscal stimulus that is required. The largest Government deficit in the postwar period — $44.2 billion — was recorded in fiscal 1975, and an even larger deficit is projected for fiscal 1976. Fiscal activists contend that such unusually large doses of fiscal stimulus are required given the unusual severity of the current recession.

Monetary policy also takes on a unique character in the current economic environment. This year, for the first time in history, the Federal Reserve System has made public its intentions for monetary growth a year in advance. To achieve its broad economic objectives, the Federal Open Market Committee (FOMC) has adopted a 5 to 7.5 percent target rate of growth for the narrowly defined money stock (M_1) for the period from the second quarter of 1975 to the second quarter of 1976.[1]

Thus, monetary and fiscal policies which are intended to foster a turnaround in economic activity have been put into effect or announced. But given past relationships between Government deficits and money supply growth, there is a question regarding the compatibility of these policies. In practice, monetary and fiscal policy actions do not evolve independently of each other. In the past, deficits have created pressures for increased money supply growth — the greater the deficit, the greater have been the pressures on the monetary authorities for monetary expansion.

Interest rates provide the link in the decision-making process between monetary and fiscal actions. Large Government deficits, which have to be financed in private credit markets, have a tendency to depress prices of Government securities, raise the yields on these securities, and raise interest rates in general. This upward pressure on interest rates can be resisted temporarily through Federal Reserve purchases of Government securities, which inject reserves into the banking system and expand both the money stock and the supply of credit. In other words, increases in deficits put upward pressure on interest rates which, when resisted by the Federal Reserve, become a source of monetary expansion.

The current situation does not seem to be an exception to this historical experience. In the first half of 1975, large sales of Treasury securities were more than offset by declining private demand for credit, and interest rates declined over this period. As economic recovery progresses, however, it is reasonable to expect that total credit demands will start to increase. Since June 1975 interest rates have begun to show signs of upward movement.

In testimony before the House Banking and Currency Committee on July 24, Arthur F. Burns, Chairman of the Board of Governors of the Federal Reserve System, announced the long-run money stock target adopted by the Federal Open Market Committee.[2] Congressman Henry Reuss expressed a strong preference for the maintenance of the current level of interest rates over the target period. Since attainment of the money stock target might imply higher interest rates in the short run than would otherwise be the case, these two views may be in conflict.

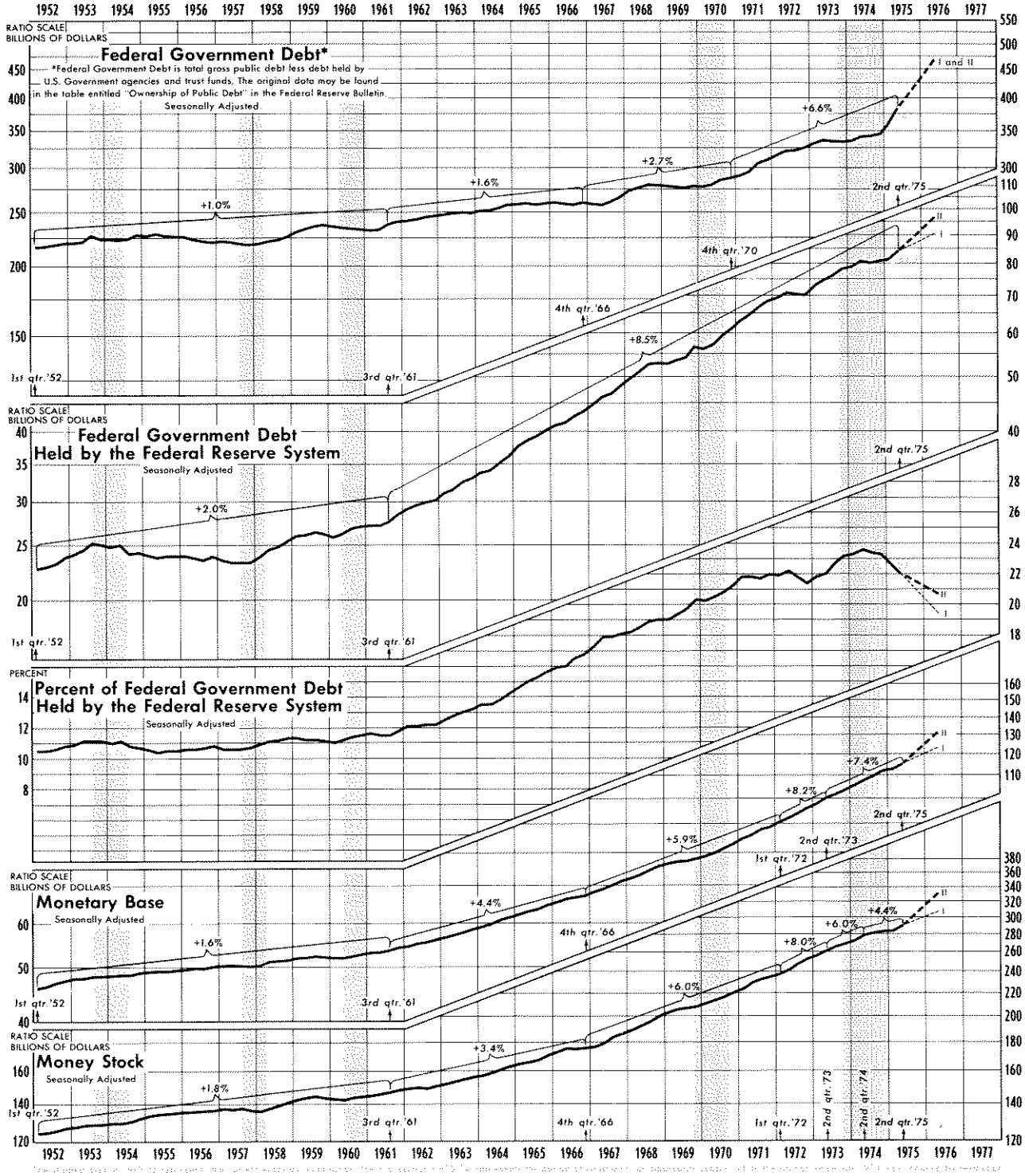
This article attempts to trace through the implications of large Government deficits by presenting two hypothetical scenarios. The first case is one in which the money stock is permitted to grow at the announced target of 5 to 7.5 percent from the second quarter of 1975 to the second quarter of 1976 and interest rates are permitted to seek their market-determined level. The second case depicts a situation where interest rate stabilization would be the target of the Federal Reserve. In this hypothetical example, it is assumed for illustrative purposes that purchasing twice the amount of Government debt as in Case I would attain the interest rate stabilization objective.

[1]The M1 target originally announced by Arthur Burns on May 1, 1975, before the Committee on Banking, Housing and Urban Affairs of the U. S. Senate was for a 5 to 7.5 percent growth for the period March 1975 to March 1976.

[2]Chairman Burns announced the following targets for the period from the second quarter of 1975 to the second quarter of 1976: M1, 5 to 7.5 percent; M2, 8.5 to 10.5 percent; M3, 10 to 12 percent; credit proxy, 6.5 to 9.5 percent.

Chart I

Influence of Federal Government Debt on Monetary Expansion



Latest data plotted: MB and MS 2nd quarter; Others-2nd quarter estimated by this Bank; dashed lines indicate forecasts estimated by this bank.

GOVERNMENT DEBT AND MONEY

Historical Relationships

As illustrated in Chart I, the amount of Government debt outstanding increased at a very slow 1 percent annual rate from the early 1950s to the early 1960s.[3] At the same time the amount of debt held by the Federal Reserve System increased at a 2 percent rate and, as can be seen in the bottom two tiers in Chart I, both the monetary base and the money stock increased at less than a 2 percent average annual rate.[4] From late 1961 to mid-1975, net Federal Government debt increased at a 3.5 percent annual rate. During this period, however, the Federal Reserve increased its holdings of debt at an 8.5 percent annual rate.

As the Federal Reserve was increasing its holdings of debt outstanding at an accelerated rate, growth of the monetary base and the money stock also increased. In the early 1960s, money and base grew at average annual rates of 3.4 and 4.4 percent, respectively. From the mid-1960s to the present, growth rates of money and base have averaged between 6 and 8 percent over extended periods. On balance, the monetary base and the money stock increased at rates of 5.7 and 5.1 percent, respectively, from late 1961 to mid-1975.

Case I

The FOMC established a 5 to 7.5 percent target rate of growth for the money stock for the period from the second quarter of 1975 to the second quarter of 1976. If the money stock increased at a 6.25 percent rate (mid-point of the range) during this period, the level of M_1 for the second quarter of 1976 would be $308.4 billion — an increase of $18.1 billion, as indicated by line I on the bottom tier of Chart I. The crucial question regarding attainment of this level of M_1 is what dollar volume of securities would have to be acquired by the Federal Reserve System?

In order to illustrate a procedure for making such a determination, the growth of money stock must be related to growth of the monetary base. Assuming that reserve requirements, deposit distribution among various classes of banks, and the public's preference for utilization of reserves remain unchanged, one can derive the growth of the monetary base which would correspond to the targeted money stock growth (see Appendix for a more detailed derivation). If 80 percent of this increase in the base results from purchases of Government securities by the System,[5] the change in the holdings of securities by the System associated with the 6.25 percent target money growth can be determined.

This procedure indicates that the monetary base would have to increase by about $8 billion in order for the money stock to increase $18.1 billion from the second quarter of 1975 to the second quarter of 1976. This would mean that the System's holdings of securities would increase by about $6.4 billion through the second quarter of 1976, about 7.5 percent of the estimated sales of net Government debt during this period.[6]

Case II

In this hypothetical example, the primary assumption is that in order to stabilize interest rates at prevailing levels, the Federal Reserve will have to purchase more of the increased Government debt than is necessary to attain the announced M_1 target growth. The exact amount of such purchases is not known with any degree of certainty; however, for illustrative purposes only, it is assumed that the System would have to purchase twice the amount of Government debt indicated in Case I, or 15 percent. The Federal Reserve currently owns about 22 percent of the Federal debt outstanding.

Purchasing 15 percent of the projected Government funding requirements for fiscal 1976 would result in a $13 billion increase in the Federal Reserve's holdings of Government securities. An increase of this magnitude implies a 14 percent increase in both the monetary base and the money stock.

If the monetary multiplier does not exceed its historical variations, these two Cases illustrate that maintenance of the announced targets of monetary growth and current levels of interest rates may not be compatible. If an attempt is made to maintain current levels of interest rates and private credit demands increase, then the money stock would have to rise at a more rapid rate than that targeted by the FOMC.

[3]The outstanding Government debt referred to in this article is total gross public debt minus debt held by U. S. Government agencies and trust funds.

[4]The monetary base is defined as the net monetary liabilities of the Federal Reserve and Treasury. For further explanation, see both the Appendix to this article and Leonall C. Andersen and Jerry L. Jordan, "The Monetary Base – Explanation and Analytical Use," this *Review* (August 1968), pp. 7-11.

[5]Currently, the holdings of securities by the Federal Reserve System constitute approximately 80 percent of total monetary base.

[6]The debt figures for the second quarter of 1976 are estimated by this Bank using the revised budget figures released May 30, 1975 by the Office of Management and Budget.

There are, of course, analysts who believe that growth of money stock in the range of 14 percent for the period under consideration (one year) is of no consequence.[7] They argue that recovery would be stifled if interest rates were permitted to rise, and money stock growth could be reduced as the economy approaches its capacity. The subsequent section presents some evidence on the relationships between money growth and economic activity.

THE SHORT- AND LONG-RUN IMPACT OF MONEY GROWTH

History has shown that economic conditions are affected by movements in the money stock and, hence, by Federal Reserve purchases of Government securities. Since the above two Cases differ considerably in the rate of money growth and the amount of securities purchased by the Federal Reserve System, each Case would have different implications for output, prices, and, as already discussed, interest rates.

Chart II depicts historical relationships between changes in the money stock and changes in output, prices, and unemployment. The first tier of this Chart depicts the short-run fluctuations and long-run (trend) growth in the money stock. Since about 1961, the trend growth of the money stock has been rising. Historically, the trend growth rate of the money stock has been associated with a similar rate of change in the price level (Chart II, second tier).

Short-run fluctuations in growth of the money stock have been associated with temporary corresponding changes in the rate of real output growth. The first four shaded areas on Chart II are periods of business recessions as defined by the National Bureau of Economic Research. Prior to each of the recessions, the rate of growth of the money stock declined relative to its trend.

The Implications for Prices and Output

Case I assumes an average rate of growth of the money stock of about 6.25 percent through the second quarter of 1976. Such a rate of money growth would continue the trend growth that has prevailed since late 1971. On the basis of historical relationships, this money stock growth would result in about a 6 percent rate of increase in prices. Since this rate of money growth represents a marked increase from the rate which prevailed in late 1974 and early 1975, historical relationships also imply a short-run stimulus to real output.

Case II is associated with a much more rapid rate of money stock growth. The relationships presented in Chart II indicate that rapid monetary growth probably would provide a strong stimulus to expansion of real output *in the short run.* To the extent that this very rapid growth in the money stock were maintained long enough to increase the trend growth of money, however, the rate of inflation would also gradually increase. If, in an attempt to prevent the re-emergence of inflationary pressures at a later time, the sharp increase in the rate of growth of the money stock were followed by a correspondingly sharp contraction in money growth, historical evidence indicates that a sharp decline could occur in the growth of real output and employment.

Implications for Interest Rates

It is generally accepted that the supply of and demand for funds determine the level of interest rates. In each Case the increase in the supply of securities (demand for credit) by the Treasury is assumed to be the same.[8] The implications for interest rates in each Case depends, therefore, on the relative amount of Government securities taken by the Federal Reserve, and the differential influence of each Case on the growth of output and expectations regarding the rate of inflation. These latter two influences affect growth of private credit demand.

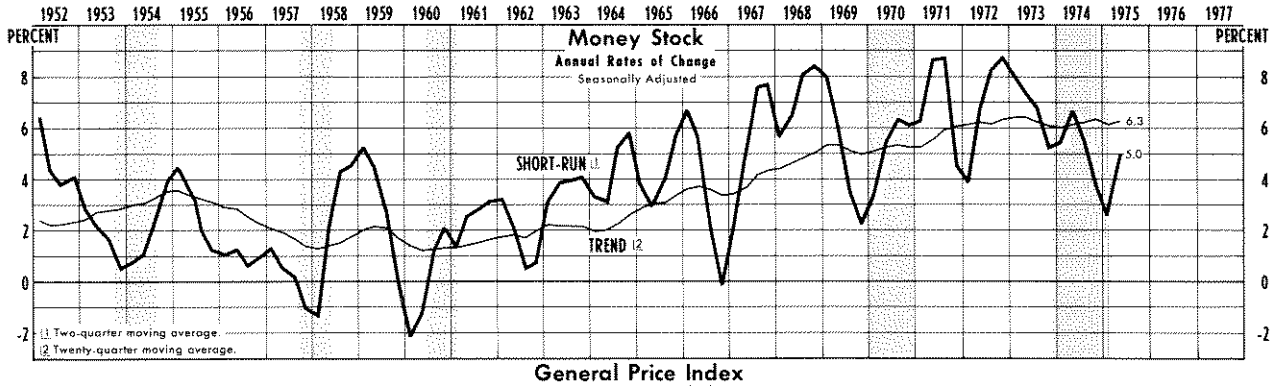
Case I, it may be recalled, implied that the System would purchase about $6.4 billion of the increase in debt outstanding through the second quarter of 1976. In Case II it was assumed that the System would purchase a much larger amount of securities than in Case I. For this reason, upward pressure on interest rates would not be expected to be *initially* as strong for Case II as for Case I. The larger the volume of Government debt demanded by the Federal Reserve System, the higher the price, and the lower that interest rates would be in the short run. On the other hand, Case II indicates faster growth of output in the short run and re-emergence of more rapid inflation and inflationary expectations. These increases in expectations of inflation would tend to suggest sharply higher market interest rates in the long run than would occur in Case I.

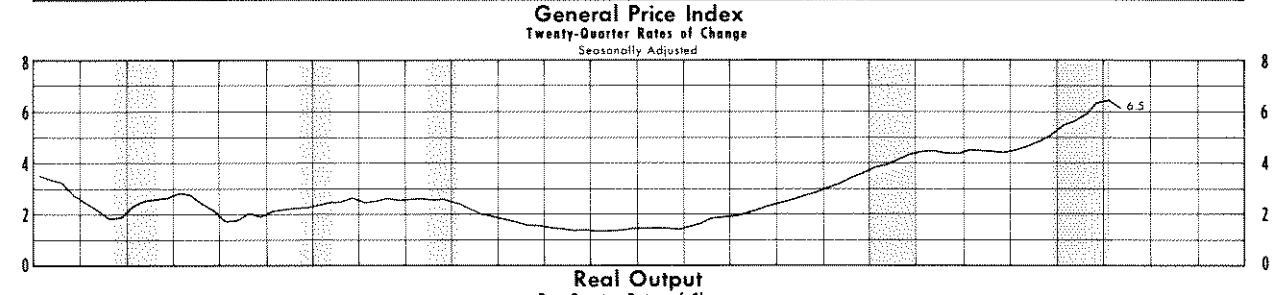
[7]For example, see Franco Modigliani and Lucas Papademos, "Targets for Monetary Policy in the Coming Year," *Brookings Papers on Economic Activity* (1, 1975), pp. 141-163.

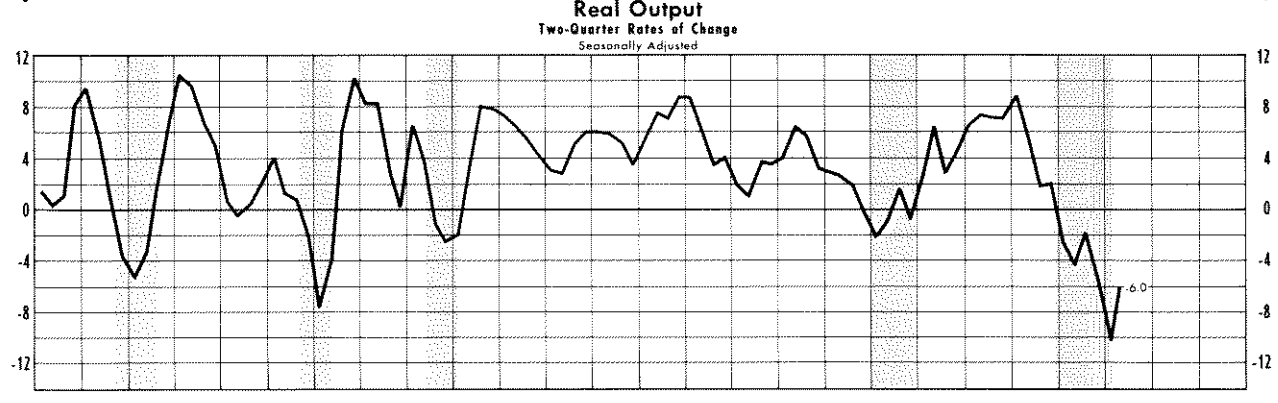
[8]This assumption is made only for the sake of simplicity. It is recognized that Government deficits are affected by the rate of money supply growth in such a way that the supply of Government debt obligations would be somewhat less in Case II than in Case I.

Chart II

Trends and Fluctuations of Money, Prices, Output, and Unemployment







Latest data plotted: 2nd quarter preliminary

CONCLUSIONS

This article relates the projected huge increase in the amount of debt outstanding to two sets of increases in purchases of Government securities by the Federal Reserve System. Case I assumed that the System purchased an amount of Government securities which was based on the attainment of the money stock growth rate target of the FOMC announced in July. Case II was based on hypothetical estimates of Federal Reserve purchases of Government debt which might be necessary to resist short-run rises in interest rates.

The monetary growth target established by the Federal Open Market Committee may imply somewhat higher interest rates temporarily and somewhat slower recovery from the current recession than the interest rate levels and recovery growth advocated by some economists and some policymakers. If total credit demands increase with improved economic activity, interest rates will be subjected to upward pressure. An attempt to maintain market rates at current levels could produce an undesirable choice of alternatives: either the acceptance of a high rate of inflation or the re-occurrence of recession when money growth is sharply curtailed to check inflation.

APPENDIX

This Appendix illustrates the derivation of the amount of securities which the Federal Reserve would purchase in order to produce the announced target rate of growth of the money stock. The step-by-step procedure described here is an explanation of the figures used in Case I of the accompanying article.

The monetary base is derived from the consolidated balance sheets of the Federal Reserve and Treasury. The monetary base is defined as the monetary assets of the private sector; therefore, the account is rearranged so that only the liabilities of the Treasury and the Federal Reserve System, which are held by the private sector, are shown on the liabilities side of the balance sheet. An increase in the monetary base increases the money supply through a multiplier effect. A given amount of monetary base generally supports about 2.5 times this amount in money stock.

Table I

Monetary Base — Case I
II/75 — II/76
(Billions of Dollars)

1) ΔFloat	$ 0	6) ΔCurrency	$5.6
2) ΔBorrowings	1.0	7) ΔRR on Demand Deposits	1.2
3) ΔTreasury Deposits at Fed	0	8) ΔRR on Net Time Deposits	.8
4) ΔSecurities	6.4	9) ΔRR on CDs	.3
5) ΔAll Other	.6	10) ΔVault Cash of Non-Member Banks	.1
ΔMonetary Base	$8.0	ΔMonetary Base	$8.0

Money stock is defined as the sum of currency and demand deposits in the hands of the public. The target rate of money growth of 5 to 7.5 percent for the period from the second quarter of 1975 to the second quarter of 1976 implies an increase of $18.1 billion in the money stock. Currency was assumed to grow about as rapidly as personal income, or about 8 percent during this period — a $5.6 billion increase. Every dollar increase in currency requires a dollar increase in monetary base, therefore Item 6 in the accompanying Table is derived. The remaining portion of the money stock is comprised of demand deposits. By multiplying the estimated portion of member bank demand deposits by the average reserve requirement ratio on demand deposits, Item 7 is found.

Using the other announced aggregate targets,[1] the increase in net time deposits can be derived. Multiplying this amount by the reserve requirement on these deposits, Item 8 is estimated. An increase in credit demand would imply an increase in CDs over this period. Again the change would be multiplied by the reserve requirement on these deposits. Historical extrapolation indicates an approximate increase in nonmember bank vault cash that would be expected over this period (Item 10). These items are then totaled to derive the change in the "required" reserves and currency over the period — $8 billion.

Recently, holdings of securities by the Federal Reserve System account for 80 percent of the monetary base. For this reason, 80 percent of the increase in monetary base is assumed to be in the form of System holdings of securities (Item 4). Because float and Treasury deposits at the Federal Reserve are highly volatile and have no trend over time, these items are assumed to be unchanged, on balance, over the period (Items 1 and 3).

The level of member bank borrowings from Federal Reserve Banks recently has been very low. If credit demands increase, member banks borrowings would also increase, possibly to the level that existed last year, excluding the borrowing of one large New York bank (Item 2). The "all other" item comprises the remainder of the increase in the monetary base.

[1] In testimony before the House of Representatives, Committee on Banking and Currency, on July 24, 1975, Chairman Burns announced the following targets for the second quarter of 1975 to the second quarter of 1976 period: M1, 5 to 7.5 percent; M2, 8.5 to 10.5 percent; M3, 10 to 12 percent; credit proxy, 6.5 to 9.5 percent.